

PRECAUTIONARY STATEMENTS

HAZARD TO HUMANS AND DOMESTIC ANIMALS

DANGER -- PELIGRO

Fatal if swallowed or inhaled. Harmful if absorbed through the skin, Do not breathe vapors or dust. Avoid contact with skin, eyes or clothing.

ENVIRONMENTAL HAZARDS

Use only according to label directions. Methiocarb, the active ingredient in Mesurol 75% Wettable Powder Aversive Conditioning Egg Treatment, is toxic to fish and very highly toxic to birds and mammals.

DO NOT apply this product directly to water, or to areas below the mean high water mark. Runoff from treated areas may be hazardous to aquatic organisms and adjacent aquatic sites.

DO NOT contaminate water when disposing of equipment, washwaters, and rinsates. This product is very highly toxic to honeybees exposed to direct treatment, or residues on blooming shrubs, flowers, weeds and trees. Do not apply this product or allow it to drift to blooming shrubs, flowers, weeds, or trees if bees are visiting the treatment area.

United States Department of Agriculture
Animal and Plant Health Inspection Service
Riverdale, MD 20737-1237
EPA Reg. No. 56228-33
EPA Est. No. 56228-ID-1
Net Weight

RESTRICTED USE PESTICIDE

DUE TO HIGH ACUTE TOXICITY TO BIRDS, FISH, AND AQUATIC INVERTEBRATES

For retail sale to and use only by, APHIS Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

MESUROL

75% Wettable Powder

Aversive Conditioning Egg Treatment

To Reduce Predation on the Eggs of Protected, Threatened or Endangered Species

ACTIVE INGREDIENT:

Methiocarb (4-methylthio-3,5-xylyl N-methylcarbamate)

% by weight

75.0%

INERT INGREDIENTS:

25.0%

TOTAL:

100.0%

KEEP OUT OF REACH OF CHILDREN

DANGER -- PELIGRO

POISON



FIRST AID

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

IF SWALLOWED: Call a doctor or Poison Control Center. Drink one or two glasses of water and induce vomiting by touching back of throat with finger, or if available, by administering syrup of ipecac. If person is unconscious, **DO NOT** give anything by mouth, and do not induce vomiting.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF ON SKIN: Wash with plenty of soap and water. Call a physician if irritation persists.

Symptoms of Poisoning: A sense of "tightness" in the chest, sweating, contracted pupils, stomach pains, vomiting and diarrhea.

Note to Physician: Antidote - Administer atropine sulfate in large therapeutic doses. Repeat as necessary to the point of tolerance. Compound inhibits cholinesterase resulting in stimulation of the Central Nervous System, the Parasympathetic Nervous System, and the somatic motor nerves. **DO NOT** give morphine. Watch for pulmonary edema, which may develop in serious cases of poisoning, even after 12 hours. At first sign of pulmonary edema, the patient should be placed in an oxygen tent and treated symptomatically.

ENDANGERED SPECIES CONSIDERATIONS

Before undertaking any control operations with Mesurol 75% Wettable Powder Aversive Conditioning Egg Treatment, consult with local, state and Federal wildlife authorities to ensure that the use of this product for the protection of regulated species from predation does not present a hazard to other Threatened or Endangered Species. Do not apply in areas where eggs treated with this product may be consumed by Threatened or Endangered Species.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

To prepare eggs with Mesurol 75% Wettable Powder Aversive Conditioning Egg Treatment, **applicators and other handlers must wear:**

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant or waterproof gloves
- Protective eyewear
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing, or loading

Handlers must wear:

- Disposable Dust Filtering respirator. A dust mask must be worn while mixing/loading the wettable powder formulation.

USER SAFETY RECOMMENDATIONS

Users Should:

- Wash hands thoroughly with soap and water after handling this product and before eating, drinking, or using tobacco.
- Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions are provided for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.
- Remove PPE immediately if product gets inside and dispose of PPE according to State and Local regulations. Wash exposed body parts thoroughly and change into clean PPE to continue working with this product.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. Wash exposed body parts thoroughly and change into clean clothing.

REPEATED OR PROLONGED EXPOSURE TO CHOLINESTERASE INHIBITORS SUCH AS ARE CONTAINED IN THIS PRODUCT, MAY CAUSE SUSCEPTIBILITY TO ADVERSE EFFECTS FROM VERY SMALL DOSES OF ANY CHOLINESTERASE INHIBITORS.

FOR 24-HOUR EMERGENCY ASSISTANCE, CALL CHEMTREC: 800-424-9300

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. **Read the entire label. Use strictly in accordance with precautionary statements, these DIRECTIONS FOR USE, and applicable Federal, and local regulations.**

Use Restrictions:

To decrease aquatic risk, the maximum application rate is 2 lb. 75% wettable powder per 50 gallons of water applied up to two times per year.

This product may be used only to prepare egg baits to be used in efforts to condition common ravens (*Corvus corax*), white-necked ravens (*C. cryptoleucas*), or common crows (*C. brachyrhynchos*) not to prey upon eggs of Federally-designated threatened or endangered species or eggs of other species designated to be in need of special protection. Eggs treated with this product may be used in refuges or other areas under direct control of Federal, State, or local agencies where ravens or crows prey upon eggs of Federally designated threatened or endangered species or where these corvids prey upon the eggs of other wild species which Federal, State, or local agencies have determined to be in need of protection from nest predators due to documented declines in numbers and/or in nesting success.

DO NOT place eggs treated with this product in areas where there is a danger that Threatened or Endangered Species will consume them, unless special precautions are taken to limit exposure. Such special precautions may include constant observation while treated eggs are in the field and the use of hazing tactics to frighten away Threatened or Endangered Species that might feed upon treated eggs. If birds of the species to be protected feed upon or peck at treated eggs, remove all treated eggs from the field.

Directions for Use, (Cont'd)

NOTE: When controlling a protected bird species, it is usually necessary to obtain a permit from the U.S. Fish and Wildlife Service (USFWS) and/or the applicable State Wildlife Agency.

Only properly equipped and trained applicators may be in treated areas while treated eggs are being applied. Post all treated areas with warning signs which require that children, pets, and livestock be excluded from these areas. Signs should be posted at logical points of access and far enough away from nesting sites so that signs are sufficiently noticeable and remote to minimize unauthorized approaches to nesting areas.

Wear chemical-resistant or waterproof gloves when handling treated eggs.

DO NOT store eggs treated with this product in areas accessible to children, pets, or domestic animals.

Use Strategy:

Eggs treated with this product are somewhat toxic to animals which feed upon them. Research has shown that birds made ill from food materials treated with methiocarb tend to avoid feeding on items similar in appearance. By presenting treated eggs in locations at or near where species to be protected nest, it may be possible to condition corvid egg predators to avoid feeding on similar looking eggs located in the same area. Such avoidance responses may be acquired over a period of time and may require repeated exposures in order to be maintained.

Field research suggests that such conditioning effects, where detected, were site-specific.

Directions for Use, (Cont'd)

Aversive conditioning with Methiocarb-treated eggs may be most effective as a deterrent to egg predation when the predatory corvids are territorial or "resident" birds, meaning that the nesting colony at risk occurs within the area defended by the corvids or at least within their home ranges. Due to the constant appearance of new individuals, aversive conditioning may be less effective if egg predators are transient or migratory birds.

Methiocarb is a carbamate pesticide which acts as a cholinesterase inhibitor. Species which feed upon treated eggs may show signs of toxicity (e.g., regurgitation, lethargy, temporary immobilization). Occasionally, birds may die after feeding upon treated eggs, but most birds exposed to treated eggs survive.

Egg Selection:

Use only raw eggs from Japanese quail (*Coturnix japonica*), chickens, ducks, or geese. Select eggs which are similar in size and appearance to the eggs of the species that is to be protected.

Egg Preparation and Storage:

Preparation: The recipe outlined below is for preparing a batch of 24 treated eggs. Adjust the amounts of materials used according to the number of treated eggs to be made. Make only enough Mesurol suspension (step 4) to treat the number of treated eggs needed.

1. Place 24 unbroken, uncracked eggs in an object such as an egg-shipping container which will hold eggs of the size selected vertically in place.
2. Using a 14-gauge hypodermic needle at least 1-inch long and mounted on a disposable plastic syringe, puncture the large end of each egg. Take care not to crack the egg shell. Make the hole only large enough for the needle to pass in and out easily. Remove 4 ml of egg contents (white and yolk mixed) from each egg. Transfer this material to a 150- or 200-ml glass or plastic beaker.

(Directions for Use continued on middle panel)

Directions for Use, (Cont'd)

3. Transfer the combined 96 ml of egg contents withdrawn as indicated above to a blender. Add the entire contents of two additional eggs of the same species. Set the blender to "Low" and mix for 3 seconds. Allow the froth to settle and pour 60 ml of the mixed egg material into a 100-ml beaker. Discard the remainder of the mixture.
4. Place 1 gram of **Mesurol 75% Wettable Powder Aversive Conditioning Egg Treatment** in a 50-ml beaker and add 15 ml of warm, potable water. Stir contents to suspend the product in the water.
5. Pour the Mesurol suspension into the 100-ml beaker containing the mixed egg material. Stir the resulting mixture until the components are thoroughly combined.
6. Using another 5-ml plastic syringe equipped with a different 14-gauge hypodermic needle, inject each egg with 3 ml of the combined Mesurol-egg mixture. Inject material slowly and throughout the inside of the egg to prevent contents from oozing out of the hole. Retain any residual Mesurol-egg Mixture for disposal as pesticide waste at an approved waste disposal facility.
7. Seal the egg with hot-melt glue or an almond or white-colored caulking compound.
8. Mark each treated egg with the word "**POISON**" and refrigerate until time for use. Place treated eggs in a container marked "**POISON**" before transporting or distributing eggs.

Storage: Refrigerate treated eggs immediately after preparation. Such eggs may be used up to 7 days after preparation. If stored eggs have not been refrigerated for more than 24 hours or have been exposed to heat in excess of 100F, dispose of them as pesticide waste at an approved waste disposal facility.

(Directions for Use continued on right panel)

Directions for Use, (Cont'd)

Egg Bait Application:

Prior to utilizing this control method, an endangered species consultation should be conducted with the USFWS to determine if endangered or threatened species that could or would consume treated eggs may be present during the treatment period. In addition, a physical inspection of the proposed treatment area should be conducted to determine the presence or absence of endangered or threatened species that might consume treated eggs. If it is determined through USFWS consultation or visual inspection that such endangered or threatened species are present, then control methods other than Mesurol 75% Wettable Powder Aversive Conditioning Egg Treatment should be employed.

Begin the aversive conditioning process approximately 3 weeks before the expected onset of egg-laying by the species to be protected.

Observations: Treated areas must be observed, at least periodically, to monitor the responses of target birds, nesting birds, and other nontarget species. Set up an observation blind near each treatment area. Blinds should be established in ways which afford good views of treated area and allow observer to come and go with minimal disturbance of birds in treated areas. Haze away Threatened or Endangered Species that might be at risk from treated eggs. Remove treated eggs if Threatened or Endangered Species remain in the treated area and approach treated eggs. Video equipment may be used to supplement direct observations.

(Directions for Use continued on Page 4)

Directions for Use, (Cont'd)

If conditions permit, examine animal tracks in and near treated areas to determine the species which are using the area and may be approaching treated eggs.

Bait Placement: Place treated eggs in sets of 1 or 2 eggs each located in or adjacent to expected nesting areas of the species to be protected. Apply no more than 20 treated eggs per acre. Whenever practical, place eggs in "dummy" nests created by making a shallow depression and adding material as appropriate for resembling the nest of the species to be protected. Dummy nests may be partially hidden by vegetation or debris. **DO NOT** use more treated eggs than are necessary to condition target birds. Ravens and crows often cache surplus food.

Check egg sets at intervals of 24 hours or less. Replace eggs that are damaged or removed with fresh treated eggs. Replace treated eggs, whether damaged or not, after 5 days of field exposure or after 3 days if the mean high temperature exceeded 80F for that period of time. When replacing eggs, be careful not to frighten nesting birds or target birds that are actively removing or feeding on treated eggs.

Bait and Carcass Removal: Unless treatments and monitoring can be continued without adverse effects on the species to be protected, remove all treated eggs when these birds begin laying eggs. In some cases, it may be possible to continue deploying treated eggs around the periphery of the breeding colony. Consult biologists familiar with the behavior of the nesting species and with the specific colony, if possible, to determine whether it would be more appropriate to disband or continue treatments once nesting begins.

Directions for Use, (Cont'd)

Dispose of all unconsumed or unused treated eggs as pesticide waste at an approved waste disposal facility in accordance with applicable Federal and State laws. Carcasses of dead or dying animals should be collected and ultimately burned or buried according to applicable Federal and State laws. If Methiocarb poisoning was possibly the cause of the death of a nontarget species, the carcass, if sufficiently fresh, should be frozen as soon as possible and stored for subsequent residue analysis.

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal.

Pesticide Disposal - Wastes resulting from the use of **Mesuro! 75% Wettable Powder Aversive Conditioning Egg Treatment** may be disposed of on site or at an approved waste disposal facility.

Container Disposal - **DO NOT** use container in connection with food, feed, or drinking water. When container is completely empty, dispose of in a sanitary landfill or by incineration, or if allowed by State or local authorities, by burning. If burned, stay out of smoke.

Storage - Store in a cool dry place and in such a manner to prevent cross contamination with other pesticides, fertilizers, food and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Handling - Use in a manner to prevent spillage. If the container is leaking or material has been spilled for any reason or cause, carefully collect in a pile. Refer to Precautionary Statements on label for hazards associated with the handling of this material. **DO NOT** walk through spilled material and dispose of Mesuro! 75% Wettable Powder Aversive Conditioning Egg Treatment at an approved waste disposal facility. In spill or leak incidents, keep unauthorized people away. For assistance, you may contact Chemtrec at 800-424-9300.